invente 6.0

REALM OF VIRTUALITY

8th, 9th OCTOBER 2021

ACE

Department of Civil Engineering

SOLUTION AU PROBLEME

General Instructions:

1. Please read the problem statement carefully.
2. Submit your ideas in pdf or ppt only.

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3. Last date for Idea Submission is 6th Oct 2021 via above Email.
4. There is no restriction on word limit.
5. Solution must be within basic requirements.

PROBLEM STATEMENTS

Problem Statement-1

Road maintenance

Objective: Road maintenance record-keeping system

Description:

The maintenance of rural and urban roads is becoming an increasing challenge as a result of the rapid growth of the network. A large amount of money is going to waste due to irregularity and improper approach. Sound asset management principles need to be introduced as an integral part of road policies and maintenance program. Comprehensive maintenance planning with schedule,institutional reforms, linkage with initial construction, maintenance backlog, utilization of fund, regular on site inspections, training to the workforce, human attitude, existing practices and knowledge of different road patterns are the major challenges in record-keeping.

Specifications:

1) Effective maintenance record keeping system will create social and economic impacts of rural roads user.
2) It will serves ready record for long term budget planning as huge investment incurred in road infrastructure development.
3) Some qualitative outputs such as, maintained roads provide access to where people live and important facilities such as markets, schools and health services.
4) Good access provides the opportunity for improving livelihoods and increased employment opportunities, thereby contributing to the alleviation of poverty.
5) Although it may be argued that the link between rural roads and poverty alleviation is mostly indirect, experience clearly shows that areas with poor road access are generally more disadvantaged than areas that are better served.

Problem Statement-2

Treatment of Waste Water

Objective: Cost Effective Treatment of Waste Water Using Construction Wetland

Description:

Most of the water from the industries now a days durectly diacharged into water body which in turn pollute water body as well as encourage the growth of water hyacinth which is very harmful to aquatic life. The convetional treatment is very costly and require skilled labour. So the challange is to find a solution to treat waste water from the industry which is cost effective as well as can be applied on small scale and which does not require skilled labour.

Specifications:

1) The solution provided can impact to the Community health as this method is cost effective and can be applied at small scale.
2) The solution provided can also decrese the area of water hyacinth as it uses the aquatic plants for biological treatment.
3) The solution provided can help industries to save water as the water treated at industry by construction wetland can be used for other purposes also.

Problem Statement-3

DISPOSAL OF CONCRETE WASTE MATERIAL

Objective: To solve the problem in disposal of concrete waste material

Description:

Demolition of existing building creates a lot of construction waste. This construction waste consists of different materials like concrete, bricks, and reinforcement bars. The disposal of this waste is done at the dumping site. The degradation of this materials is not possible in the shorten period of time because it will take more time to degrade. Currently, there is not solution of reusing this construction waste. It is necessary to consider this problem on priority basis.

Specifications:

1) The development progress in construction industries have the great effects to the environmental especially in environmental change and waste produced.
2) One of the causes of the construction waste is natural resources use exceeding what is required in construction process.
3) Construction material waste refers to the materials from the construction location that cannot be used for construction purposes and must be removed for any reasons.
4) Beside effects on the cost, construction waste also affects to the environmental.